UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,098	10/15/2001	Hiroaki Yoshino	35.G2919	9468

5514   7590   01/04/2007

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EXAMINER
JACKSON, JAKIEDA R

ART UNIT	PAPER NUMBER
2626	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	09/976,098	YOSHINO ET AL.
	Examiner	Art Unit
	Jakieda R. Jackson	2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>24 October 2006</u>.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1,5-8 and 12-18</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1,5-8 and 12-18</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   In response to the Office Action mailed July 25, 2006, applicant submitted an

amendment filed on October 24, 2006, in which the applicant traversed and requested

reconsideration.

Response to Arguments

2.   Applicants argue that Yu et al. does not teach or suggest "presentation means for

presenting to the user an unmatched portion between the recognized character string

pattern and the recording character string pattern. Instead, Yu et al. teaches that the

mismatch is between the character written by the user and the entries in the resident

dictionary. Applicant's arguments are persuasive, but are not moot in view of new

grounds.

Applicants further argue that the combination of the document with Keiller et al. is

impermissible, however, applicants arguments are persuasive, but are moot in view of

new grounds of rejection.

Applicant also argues that Ho et al. does not teach or suggest "display control

means for controlling displaying of the recording character sting indicating the sentence

to be recorded. Applicants argue the Ho et al displays text corresponding to speech

that was already dictated by the user and recorded and converted by the machine.

Applicants arguments are persuasive, but are moot in view of new grounds of rejection.

Applicant argues that Chihara does not teach or suggest "re-input instruction

means for issuing an instruction to input speech once again when it is determined by

said determination means that the matching does not exceed the predetermined level.

Applicant further argues that Chihara relates to speech synthesis, not speech

recognition and the there is not motivation to combine. However, Applicants arguments

are moot in view of new grounds of rejection.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   **Claims 1, 8, 15-18** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Keiller (USPN 6,560,575) in view of Jochumson (USPN 6,865,536) in view of Kirby

et al. (USPN 6,226,615), hereinafter referenced as Kirby and in further view of Brown et

al. (USPN 6,061,654), hereinafter referenced as Brown.

Regarding claims **1, 8, and 15**, Keiller discloses an apparatus, method and

system for recording speech, to be used as learning data for recognizing input speech,

comprising:

storage means for storing a recording character string indicating a sentence to be

recorded (column 16, lines 12-19);

recognition means for recognizing input speech of the displayed sentence that a user reads out, and for obtaining a recognized character string (input is taken as two training examples: one a new example and one an already existing example; column 15, lines 25-35) corresponding to the stored recording character string pattern (column 16, lines 16-19);

determination means for comparing a pattern of the recognized character string with a pattern if the recording character string stored in said storage means so as to obtain a matching rate therebetween, and determining whether said matching rate exceeds a predetermined level (system checks whether training examples are consistent (column 15, lines 28-30) by computing the consistency scores (column 15, lines 53-65) and comparing the result again against the threshold (95%, column 16, lines 6-8); and

recording means for recording the input speech as the learning data for recognizing speech when it is determined by said determination means that said matching rate exceeds a predetermined level (if the results are consistent, they are used to generate a model for word being trained (column 15, lines 27-30), so inherently, the generated model is stored (recorded) to some memory means (see also column 16, lines 12-15), but does not specifically teach display control means, re-input instruction means and presentation means.

Jochumson discloses a speech correction device further comprising presentation means for presenting an unmatched portion between the recognized character string

pattern (what user has actually verbalized) and the recording character string pattern (what is expected; column 2, lines 53-65), to provide results or feedback.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Keiller's apparatus and method further comprising presentation means for presenting an unmatched portion between the recognized character string pattern and the recording character string pattern, as taught by Jochumson, to provides results and feedback to the user on how correct they were in stating the proper word or phrase (column 2, lines 53-65).

Keiller in view of Jochumson teaches storage means, determination means, recording means and presentation means, but does not specifically teach display control means and recognition means.

Kirby discloses a speech recognition device comprising a display control means for controlling displaying of the recording character string indicating the sentence to be recorded (prompting system to identify the words to be spoken that are presented; column 2, lines 31-39 with column 3, lines 1-17), to determine a new match between text and speech.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Keiller in view of Jochumson's apparatus and method wherein it comprises a display control means, as taught by Kirby, to determine a new match between text and speech, in order to try and regain synchronization (column 3, lines 51-65).

Keiller in view of Jochumson and Kirby teaches a storage means, display control means determination means, recording means and presentation means, but does not specifically teach a re-input instruction means.

Brown teaches a speech synthesis apparatus comprising a re-input means for issuing an instruction to input speech once again when it is determined by said determination means that the matching rate does not exceed the predetermined level (indicates that no such match exists, re-prompt the user to speak again; column 3, lines 28-52), to present the highest correct character string.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Keiller in view of Jochumson and Kirby's apparatus and method wherein it comprises a re-input instruction means, as taught by Brown, to present to the user with a positive match (column 3, lines 28-52).

Regarding **claim 16**, Keiller discloses a speech recognition method comprising:

a learning recognition step of recognizing input speech, of the displayed sentence that a user reads out, and for obtaining a recognized character string (input is taken as two training examples: one a new example and one an already existing example; column 15, lines 25-35);

a determination step of comparing a pattern of the recognized character string with a pattern of a recording character string indicating a sentence to be recorded so as to obtain a matching rate therebetween, and of determining whether said matching rate exceeds a predetermined level (system checks whether training examples are

consistent (column 15, lines 28-30) by computing consistency scored (column 15, lines
53-65) and comparing the result against a threshold (95%, column 16, lines 6-8));

a recording step of recording the input speech as the learning data for
recognizing speech when it is determined in said determination step that said matching
rate exceeds a predetermined level (if results are consistent, they are used to generate
a model for word being trained (column 15, lines 27-30), so inherently, the generated
model is stored (recorded) to a memory means (column 16, lines 12-19));

a learning step of performing learning on a speech model by using the input
speech recorded in said recording step (the process described above provides general
training of the model; column 16, lines 14-20); and

a recognition step of recognizing unknown input speech by using the speech
model learned in said learning step (training data is used in general recognition; column
16, lines 14-20), but does not specifically teach display control means, re-input
instruction means and presentation means.

Jochumson discloses a speech correction device further comprising presentation
means for presenting an unmatched portion between the recognized character string
pattern (what user has actually verbalized) and the recording character string pattern
(what is expected; column 2, lines 53-65), to provide results or feedback.

Therefore, it would have been obvious to one of ordinary skill in the art at the
time the invention was made to modify Keiller's apparatus and method further
comprising presentation means for presenting an unmatched portion between the
recognized character string pattern and the recording character string pattern, as taught

by Jochumson, to provides results and feedback to the user on how correct they were in stating the proper word or phrase (column 2, lines 53-65).

Keiller in view of Jochumson teaches storage means, determination means, recording means and presentation means, but does not specifically teach display control means and recognition means.

Kirby discloses a speech recognition device comprising a display control means for controlling displaying of the recording character string indicating the sentence to be recorded (prompting system to identify the words to be spoken that are presented; column 2, lines 31-39 with column 3, lines 1-17), to determine a new match between text and speech.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Keiller in view of Jochumson's apparatus and method wherein it comprises a display control means, as taught by Kirby, to determine a new match between text and speech, in order to try and regain synchronization (column 3, lines 51-65).

Keiller in view of Jochumson and Kirby teaches a storage means, display control means determination means, recording means and presentation means, but does not specifically teach a re-input instruction means.

Brown teaches a speech synthesis apparatus comprising a re-input means for issuing an instruction to input speech once again when it is determined by said determination means that the matching rate does not exceed the predetermined level

(indicates that no such match exists, re-prompt the user to speak again; column 3, lines

28-52), to present the highest correct character string.

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Keiller in view of Jochumson and Kirby's

apparatus and method wherein it comprises a re-input instruction means, as taught by

Brown, to present to the user with a positive match (column 3, lines 28-52).

Regarding **claims 17 and 18**, Keiller discloses a control program having

computer readable program code and a speech recognition method, comprising:

a second program code unit for recognizing input speech of the displayed

sentence that a user reads out, and for obtaining a recognized character string (input is

taken as two training examples: one a new example and one an already existing

example; column 15, lines 25-35);

a third program code unit for comparing a pattern of the recognized character

string with a pattern of the recording character string so as to obtain a matching rate

therebetween, and for determining whether said matching rate exceeds a

predetermined level system checks whether training examples are consistent (column

15, lines 28-30) by computing consistency scored (column 15, lines 53-65) and

comparing the result against a threshold (95%, column 16, lines 6-8);

a fourth program code unit for recording the input speech as the learning data for

recognizing speech when it is determined by said determination step that said matching

rate exceeds a predetermined level (if results are consistent, they are used to generate

a model for word being trained (column 15, lines 27-30), so inherently, the generated

model is stored (recorded) to a memory means (column 16, lines 12-19);

a fourth program code unit for performing learning on a speech model by using

the input speech recorded in said record step (the process described above provides

general training of the model; column 16, lines 14-20); and

a eighth program code unit for recognizing unknown input speech by using the

speech model learned in said learning step (training data is used in general recognition;

column 16, lines 14-20), but does not specifically teach display control means, re-input

instruction means and presentation means.

Jochumson discloses a speech correction device further comprising presentation

means for presenting an unmatched portion between the recognized character string

pattern (what user has actually verbalized) and the recording character string pattern

(what is expected; column 2, lines 53-65), to provide results or feedback.

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Keiller's apparatus and method further

comprising presentation means for presenting an unmatched portion between the

recognized character string pattern and the recording character string pattern, as taught

by Jochumson, to provides results and feedback to the user on how correct they were in

stating the proper word or phrase (column 2, lines 53-65).

Keiller in view of Jochumson teaches storage means, determination means,

recording means and presentation means, but does not specifically teach display

control means and recognition means.

Kirby discloses a speech recognition device comprising a display control means for controlling displaying of the recording character string indicating the sentence to be recorded (prompting system to identify the words to be spoken that are presented; column 2, lines 31-39 with column 3, lines 1-17), to determine a new match between text and speech.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Keiller in view of Jochumson's apparatus and method wherein it comprises a display control means, as taught by Kirby, to determine a new match between text and speech, in order to try and regain synchronization (column 3, lines 51-65).

Keiller in view of Jochumson and Kirby teaches a storage means, display control means determination means, recording means and presentation means, but does not specifically teach a re-input instruction means.

Brown teaches a speech synthesis apparatus comprising a re-input means for issuing an instruction to input speech once again when it is determined by said determination means that the matching rate does not exceed the predetermined level (indicates that no such match exists, re-prompt the user to speak again; column 3, lines 28-52), to present the highest correct character string.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Keiller in view of Jochumson and Kirby's apparatus and method wherein it comprises a re-input instruction means, as taught by Brown, to present to the user with a positive match (column 3, lines 28-52).

5.   **Claims 5 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Keiller in view of Jochumson, Kirby and Brown and in further view of Crepy et al.

(USPN 6,622,121), hereinafter referenced as Crepy.

Regarding **claims 5 and 12**, Keiller in view of Jochumson, Kirby and Brown

discloses an apparatus and method for recording speech, to be used as learning data in

speech recognition processing, but lacks wherein said presentation means presents the

unmatched portion so as to identify the type of error as an insertion error, a deletion

error, or a substitution error, as determined by said determination means.

Crepy discloses a speech correction device wherein said presentation means

presents the unmatched portion so as to identify the type of error as an insertion error

(insertions), a deletion error (deletions), or a substitution error (substitutions), as

determined by said determination means (column 4, line 65 – column 5, line 11), to

generate an error report.

.Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Keiller in combination with Jochumson, Kirby

and Brown apparatus and method wherein said presentation means presents the

unmatched portion so as to identify the type of error as an insertion error, a missing

error, or a substitute error, as taught by Crepy, to generate an error report from which

various measurements may be derived (column 4, line 65 – column 5, line 11).

6.   **Claims 6-7 and 13-14** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Keiller in view of Jochumson, Kirby and Brown and in further view of

Baker (USPN 6,122,613).

Regarding **claims 6 and 13**, Keiller in view of Jochumson, Kirby and Brown

discloses an apparatus and method for recording speech, to be used as learning data in

speech recognition processing, but lacks wherein said presentation means

simultaneously displays the recognized character string and the recording character

string on a screen by changing a character attribute or a background attribute of an

unmatched portion or a matched portion of at least one of the recognized character

string and the recording character string.

Brown does not specifically teach a speech correction device wherein said

presentation means simultaneously displays the recognized character string and the

recording character string on a screen by changing a character attribute or a

background attribute of an unmatched portion or a matched portion of at least one of the

recognized character string and the recording character string (highlight uncertainty

using reverse contrast; column 7, lines 1-16 and column 11, lines 23-30), to identify the

error.

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify Keiller in view of Jochumson, Kirby and Brown

apparatus and method wherein said presentation means simultaneously displays the

recognized character string and the recording character string on a screen by changing

a character attribute or a background attribute of an unmatched portion or a matched

portion of at least one of the recognized character string and the recording character

string, as taught by Baker, to provide the speaker with essentially visual feedback for

quick and easy review of text and to perform revisions (column 4, line 66 – column 5,

line 6).

Regarding **claims 7 and 14**, Keiller in view of Jochumson, Kirby and Brown

discloses an apparatus and method for recording speech, to be used as learning data in

speech recognition processing, but lacks wherein said presentation means

simultaneously displays the recognized character string and the recording character

string on a screen by causing unmatched portion or matched portion of at least one

recognized character string and the recording character string to blink.

Baker discloses a speech correction device, but does not specifically teach a

device wherein said presentation means simultaneously displays the recognized

character string and the recording character string on a screen by causing unmatched

portion or matched portion of at least one recognized character string and the recording

character string to blink.

However, it would have been obvious to one of ordinary skill in the art at the time

the invention was made that to provide a visual feedback of the uncertainties by

highlighting the instance of uncertainty (e.g. bold or reverse contrast; column 11, lines

22-30 with column 7, lines 1-9) would include flashing, to make the error, mistake and

uncertainty stand out.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Keiller in view of Jochumson, Kirby and Brown's apparatus and method wherein said presentation means simultaneously displays the recognized character string and the recording character string on a screen by causing unmatched portion or matched portion of at least one recognized character string and the recording character string to blink, as taught by Baker, to provide the speaker with essentially visual feedback for quick and easy review of text and to perform revisions (column 4, line 66 – column 5, line 6).

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Iso-Sipilaet et al. (USPN 6,697,782) disclose a method in the recognition of speech and a wireless communication device to be controlled by speech..

- Waibel et al. (USPN 5,855,000) disclose a method and apparatus for correcting and repairing errors.

8.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jakieda R. Jackson whose telephone number is 571.272.7619. The examiner can normally be reached on Monday through Friday from 7:30 a.m. to 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David Hudspeth can be reached on 571.272.7843. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JRJ
December 28, 2006

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